

WEST Search History

DATE: Wednesday, August 02, 2006

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		<i>DB=PGPB,USPT,USOC; PLUR=NO; OP=OR</i>	
<input type="checkbox"/>	L36	L35 and (((character adj1 string\$) or character-string\$ or (text adj1 string\$) or text-string\$ or word or words) near match\$)	1
<input type="checkbox"/>	L35	(l26 or l27 or l28 or l29 or l30) and (xml near (document or documents) near (row or rows))	15
<input type="checkbox"/>	L34	l31 and (xml near (document or documents) near (row or rows))	6
<input type="checkbox"/>	L33	l31 and (xml near document near tree near (row or rows))	0
<input type="checkbox"/>	L32	L31 and ((character adj1 string\$) or character-string\$ or (text adj1 string\$) or text-string\$ or word or words)	21
<input type="checkbox"/>	L31	(l26 or l27 or l28 or l29 or l30) and (xml near document near tree near (node\$ or parent or root or child\$))	21
<input type="checkbox"/>	L30	715/513.ccls.	2770
<input type="checkbox"/>	L29	707/100.ccls.	4516
<input type="checkbox"/>	L28	707/6.ccls.	1841
<input type="checkbox"/>	L27	707/3.ccls.	7039
<input type="checkbox"/>	L26	707/1.ccls.	5048
<input type="checkbox"/>	L25	L22 and match\$	1
<input type="checkbox"/>	L24	L22 and (start or begin)	0
<input type="checkbox"/>	L23	L22 and ((character adj1 string\$) or character-string\$ or (text adj1 string\$) or text-string\$ or word or words)	0
<input type="checkbox"/>	L22	L21 and xml	1
<input type="checkbox"/>	L21	L20 and (document or documents)	1
<input type="checkbox"/>	L20	L19 and (row or rows)	1
<input type="checkbox"/>	L19	20040044959.pn.	1
<input type="checkbox"/>	L18	L17 and (end or finish)	1
<input type="checkbox"/>	L17	L16 and (start or begin)	1
<input type="checkbox"/>	L16	L15 and (row or rows)	1
<input type="checkbox"/>	L15	L14 and ((character adj1 string\$) or character-string\$ or (text adj1 string\$) or text-string\$ or word or words)	1
<input type="checkbox"/>	L14	L13 and match\$	1
<input type="checkbox"/>	L13	20030014397.pn.	1
<input type="checkbox"/>	L12	(xml with (document or documents) with ((character adj1 string\$) or character-string\$ or (text adj1 string\$) or text-string\$ or word or words) near match\$)	5

101 780, 404

<input type="checkbox"/>	L11	(xml near (document or documents) near ((character adj1 string\$) or character-string\$ or (text adj1 string\$) or text-string\$ or word or words) near match\$)	2
<input type="checkbox"/>	L10	L9 and (tree near (document or documents))	17
<input type="checkbox"/>	L9	L8 and ((character adj1 string\$) or character-string or sting or strings or (text adj1 string) or text-string or word or words)	58
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<input type="checkbox"/>	L6	L5 and ((xml adj1 (document or documents)) near tree)	15
<input type="checkbox"/>	L5	(xml near document or documents near retriev\$ near system).ti.	46
<input type="checkbox"/>	L4	(xml near document or documents near retriev\$ near system)	5749
		<i>DB=JPAB; PLUR=NO; OP=OR</i>	
<input type="checkbox"/>	L3	(xml near document or documents near retriev\$ near system)	149
<input type="checkbox"/>	L2	(xml near document or documents near retriev\$)	441
		<i>DB=USPT; PLUR=NO; OP=OR</i>	

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7013426 7016963 7020651).pn.

END OF SEARCH HISTORY

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Search history:

No.	Database	Search term	Info added since	Results	
1	INZZ	xml NEAR (document OR documents) NEAR (row OR rows)	unrestricted	1	show titles
2	INZZ	xml NEAR (document OR documents)	unrestricted	2051	show titles
3	INZZ	2 AND tree	unrestricted	315	show titles
4	INZZ	3 AND start ADJ tag WITH end ADJ tag	unrestricted	0	-
5	INZZ	2 AND start ADJ tag WITH end ADJ tag	unrestricted	0	-
6	INZZ	3 AND tag OR tags	unrestricted	2755	show titles
7	INZZ	3 AND (tag OR tags)	unrestricted	15	show titles
8	INZZ	7 AND (character OR text) NEAR string\$	unrestricted	0	-

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- [2 XML query processing using a schema-based numbering scheme.](#)
- [3 Prefix path streaming: a new clustering method for optimal holistic XML twig](#)
- [4 Discovery of maximally frequent tag tree patterns with contractible variabl](#)
- [5 An abstract grammar for XML document editing.](#)
- [6 A new path expression computing approach for XML data.](#)
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- [8 Naming in XML documents.](#)
- [9 Efficient structural joins on indexed XML documents.](#)
- [10 Discovery of frequent tag tree patterns in semi-structured Web documen](#)
- [11 Discovery of frequent tree structured patterns in semistructured Web document](#)
- [12 Adaptive conversion of Web content for mobile terminals.](#)
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- [15 An XML document to JavaScript object converter.](#)

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0008680237 20051211.

Title

SIOUX: an efficient index for processing structural XQueries.

Conference information

Database and Expert Systems Applications. 16th International Conference, DEXA 2005. Proceedings, Copenhagen, Denmark, 22-26 Aug. 2005.

Source

Database and Expert Systems Applications. 16th International Conference, DEXA 2005. Proceedings (Lecture Notes in Computer Science Vol. 3588), 2005, p. 564-75, 22 refs, pp. xx+955, ISBN: 3-540-28566-0. Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

Gardarin-G, Yeh-L.

Editor(s): [Andersen-K-V](#), [Debenham-J](#), [Wagner-R](#).**Author affiliation**





Gardarin, G., Yeh, L., PRISM Lab., Univ. of Versailles, France.

Abstract

XML DBMSs require new indexing techniques to efficiently process structural search and full-text search as integrated in XQuery. Much research has been done for indexing **XML documents**. In this paper we first survey some of them and suggest a classification scheme. It appears that most

techniques are indexing on paths in **XML documents** and maintain a separated index on values. In some cases, the two indexes are merged and/or **tags** are encoded. We propose a new method that indexes **XML documents** on ordered trees, i.e., two **documents** are in the same equivalence class if they have the same **tree** structure, with identical elements in order. We develop a simple benchmark to compare our method with two well-known European products. The results show that indexing on full trees leads to smaller index size and achieves 1 to 10 times better query performance in comparison with classical industrial methods that are path-based.

Descriptors

 DATABASE-INDEXING;  QUERY-PROCESSING;  TREE-DATA-STRUCTURES;  XML.

Classification codes

C6160 Database-management-systems-DBMS*;
C6120 File-organisation;
C6130D Document-processing-techniques.

Keywords

SIoux; structural-Xqueries-processing; full-text-search; **XML-document**; ordered-trees; **tree-structure**; query-performance.

Treatment codes

P Practical.

Language

English.

Publication type

Conference-proceedings.

Publication year

2005.

Publication date

20050000.

Edition

2005049.

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☒ **document 2 of 15** Order Document

Inspec - 1898 to date (INZZ)

Accession number & update

0008346623 20051201.

Title

XML query processing using a schema-based numbering scheme.

Conference information

Database and **XML** Technologies. Second International **XML** Database Symposium, XSym 2004. Proceedings, Toronto, Ont., Canada, 29-30 Aug. 2004.

Source

Database and **XML** Technologies. Second International **XML** Database Symposium, XSym 2004. Proceedings (Lecture Notes in Comput. Sci. Vol.3186), 2004, p. 21-34, 22 refs, pp. x+234, ISBN: 3-540-22969-8.
Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

Kha-D-D, Yoshikawa-M.

Editor(s): Bellahsene-Z, Milo-T, Rys-M, Suciu-D, Unland-R.

Author affiliation






Kha, D.D., IMI Project of COE Program, Nagoya Univ.

Abstract

Establishing the hierarchical order among **XML** elements is an essential function of **XML** query processing techniques. Although most **XML documents** have an associated DTD or **XML** schema, the

document structure information has not been utilized efficiently in query processing techniques proposed so far. In this paper, we propose a novel technique that uses DTD or XML schema to improve the disk I/O complexity of XML query processing. We present a schema-based numbering scheme called SPIDER that incorporates both structure information and tag names extracted from the document structure descriptions. Given the tag name and the identifier of an element, SPIDER can determine the tag names and the identifiers of the ancestor elements without disk I/O. Based on SPIDER, we designed a mechanism called VirtualJoin that significantly reduces disk I/O workload for processing XML queries. Our experiments indicated that SPIDER outperforms the structural join techniques Stack-Tree and PathStack in XML query processing, especially for XML queries with heavy join workload and large data sets.

Descriptors

 COMPUTATIONAL-COMPLEXITY;  QUERY-PROCESSING;  RELATIONAL-DATABASES;
 TREE-DATA-STRUCTURES;  XML.

Classification codes

C6160D Relational-databases*;
C6130D Document-processing-techniques;
C4240C Computational-complexity;
C6120 File-organisation.

Keywords

XML-query-processing; schema-based-numbering-scheme; XML-documents; disk-I/O-complexity; SPIDER; tag-names; VirtualJoin; Stack-Tree- technique; PathStack-technique.

Treatment codes

P. Practical.

Language

English.

Publication type

Conference-proceedings.

Publication year

2004.

Publication date

20040000.

Edition

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Inspec - 1898 to date (INZZ)

Accession number & update

0008289033 20051201.

Title

Prefix path streaming: a new clustering method for optimal holistic XML twig pattern matching.

Conference information

Database and Expert Systems Applications. 15th International Conference, DEXA 2004. Proceedings, Zaragoza, Spain, 30 Aug.-1 Sept. 2004.

Source

Database and Expert Systems Applications. 15th International Conference, DEXA 2004. Proceedings (Lecture Notes in Comput. Sci. Vol.3180), 2004, p. 801-10, 8 refs, pp. xxi+972, ISBN: 3-540-22936-1.

Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

Ting-Chen, Tok-Wang-Ling, Chee-Yong-Chan.

Editor(s): Galindo-F, Takizawa-M, Traunmuller-R.







Author affiliation

Ting Chen, Tok Wang Ling, Chee-Yong Chan, Sch. of Comput., Nat. Univ. of Singapore.

Abstract

Searching for all occurrences of a twig pattern in a **XML document** is an important operation in **XML** query processing. Recently a class of holistic twig pattern matching algorithms has been proposed. Compared with the prior approaches, the holistic method avoids generating large intermediate results which do not contribute to the final answer. The method is CPU and I/O optimal when twig patterns only have ancestor-descendant relationships. The holistic twig-pattern matching method proposed earlier (N. Bruno et al. (2002)) operates on element streams which cluster all **XML** elements with the same **tag** name together. In this paper we introduce a clustering method called prefix path streaming (PPS) and new holistic twig pattern matching algorithms based on PPS. PPS clusters elements of **XML documents** according to the paths from root to the elements. This clustering approach avoids unnecessary scanning of irrelevant portion of **XML documents**. More importantly, we develop optimal algorithms based on PPS streaming which can process a large class of twig patterns consisting of both ancestor-descendant and parent-child relationships.

Descriptors

 PATTERN-CLUSTERING;  PATTERN-MATCHING;  QUERY-PROCESSING;  STATISTICAL-ANALYSIS;  TREE-DATA-STRUCTURES;  XML.

Classification codes

C6130D Document-processing-techniques*;
C6130M Multimedia;
C1250 Pattern-recognition;
C6120 File-organisation;
C1140Z Other-topics-in-statistics;
C6160 Database-management-systems-DBMS.

Keywords

XML-document; **XML-query-processing**; holistic-twig-pattern-matching- algorithms; ancestor-descendant-relationships; clustering-method; prefix-path-streaming; parent-child-relationships.

Treatment codes

P Practical.

Language

English.

Publication type

Conference-proceedings.

Publication year

2004.

Publication date

20040000.

Edition

2005007.

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Accession number & update

0008212238 20051201.

Title

Discovery of maximally frequent **tag tree** patterns with contractible variables from semistructured **documents**.

Conference information

Advances in Knowledge Discovery and Data Mining. 8th Pacific-Asia Conference, PAKDD 2004. Proceedings, Sydney, NSW, Australia, 26-28 May 2004.

Sponsor(s): SAS; Univ of Technol, Sydney.

Source

Advances in Knowledge Discovery and Data Mining. 8th Pacific-Asia Conference, PAKDD 2004. Proceedings (Lecture Notes in Artificial Intelligence Vol.3056), 2004, p. 133-44, 12 refs, pp. xix+713, ISBN: 3-540-22064-X.
Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

Miyahara-T, Suzuki-Y, Shoudai-T, Uchida-T, Takahashi-K, Ueda-H.

Editor(s): Dai-H, Srikant-R, Zhang-C.







Author affiliation

Miyahara, T., Fac. of Sci., Hiroshima City Univ., Japan.

Abstract

In order to extract meaningful and hidden knowledge from semistructured **documents** such as HTML or XML files, methods for discovering frequent patterns or common characteristics in semistructured **documents** have been more and more important. We propose new methods for discovering maximally frequent **tree** structured patterns in semistructured Web **documents** by using **tag tree** patterns as hypotheses. A **tag tree** pattern is an edge labeled **tree** which has ordered or unordered children and structured variables. An edge label is a **tag** or a keyword in such Web **documents**, and a variable can match an arbitrary subtree, which represents a field of a semistructured **document**. As a special case, a contractible variable can match an empty subtree, which represents a missing field in a semistructured **document**. Since semistructured **documents** have irregularities such as missing fields, a **tag tree** pattern with contractible variables is suited for representing **tree** structured patterns in such semistructured **documents**. First, we present an algorithm for generating all maximally frequent ordered **tag tree** patterns with contractible variables. Second, we give an algorithm for generating all maximally frequent unordered **tag tree** patterns with contractible variables.

Descriptors

 DATA-MINING;  DOCUMENT-HANDLING;  INTERNET;  PATTERN-CLASSIFICATION;
 TREE-DATA-STRUCTURES;  XML.

Classification codes

C6170K Knowledge-engineering-techniques*;
C6130D Document-processing-techniques;
C7210N Information-networks;
C6120 File-organisation.

Keywords

maximally-frequent-tag-tree-pattern-discovery; contractible-variable; HTML; **XML**;
semistructured-Web-document; edge-labeled-tree; maximally- **frequent-unordered-tag-tree-pattern**.

Treatment codes

P Practical.

Language

English.

Publication type

Conference-proceedings.

Publication year

2004.

Publication date

20040000.

Edition

2004049.

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☒ **document 5 of 15** Order Document

Inspec - 1898 to date (INZZ)

Accession number & update

0007822103 20051201.




TitleAn abstract grammar for **XML document** editing.**Source**

Journal of KISS: Software and Applications, {J-KISS-Softw-Appl-South-Korea}, April 2003, vol. 30, no. 3-4, p. 268-77, 15 refs, CODEN: CKNBFV, ISSN: 1229-6848.
Publisher: Korea Inf. Sci. Soc, South Korea.

Author(s)Kyoun-Hee-Shin, Jong-Myung-Choi, Chae-Woo-Yoo.**Abstract**

A **document** type definition (DTD) which defines **tags** for a **document** is an **XML document** grammar that defines syntactic structure of a **document**. An **XML document** keeps the rules and must be parsed to check validation. To parse **XML document**, the deterministic parsing method of programming language is irrelevant because it does not satisfy the definition of deterministic content model in element declaration. In this paper, we consider editing of a valid **XML document** in syntax-directed editing environment, and we suggest the internal storage representations of syntax in DTD and their algorithms. The consequence is that a syntactic structure of textual DTD is transformed into graph and table structures. The table structure of DTD is interpreted as a context free grammar which has attribute values and is used in syntax-directed editor for **XML**. We called this the **XML** abstract grammar and showed generated results and examples.

Descriptors

 ATTRIBUTE-GRAMMARS;  CONTEXT-FREE-GRAMMARS;  DOCUMENT-HANDLING;
 PROGRAMMING-LANGUAGE-SEMANTICS;  TREE-DATA-STRUCTURES;  XML.

Classification codes

C4210L Formal-languages-and-computational-linguistics*;
C6130D Document-processing-techniques;
C6140D High-level-languages;
C6120 File-organisation.

Keywords

abstract-grammar; **XML-document-editing**; syntax-directed-editing; **document-type-definition**;
DTD; deterministic-parsing; syntactic- structure; internal-storage-representation; graph-structure;
table-structure; reference-attribute; context-free-grammar.

Treatment codesP Practical.**Language**

Chinese.

Publication typeJournal-paper.**Availability**

SICI: 1229-6848(200304)30:3/4L.268:AGDE; 1-W.

Publication year

2003.

Publication date

20030400.

Edition

2004001.

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☒ **document 6 of 15** Order Document**Inspec - 1898 to date (INZZ)****Accession number & update**

0007816121 20051201.

Title

A new path expression computing approach for **XML** data.

Conference information

Efficiency and Effectiveness of **XML** Tools and Techniques and Data Integration over the Web. VLDB 2002 Workshop EEXTT and CAISE 2002 Workshop DIWeb. Revised Papers, London, UK, Dec. 2002.

Source

Efficiency and Effectiveness of **XML** Tools and Techniques and Data Integration over the Web. VLDB 2002 Workshop EEXTT and CAISE 2002 Workshop DIWeb. Revised (Lecture Notes in Computer Science Vol.2590), 2003, p. 35-46, 11 refs, pp. x+258, ISBN: 3-540-00736-9.
Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

Jianhua-Lv, Guoren-Wang, Jeffrey-Xu-Yu, Ge-Yu, Hongjun-Lu, Bing-Sun.

Editor(s): Bressan-S, Chaudhri-A-B, Lee-M-L, Yu-J-X, Lacroix-Z.







Author affiliation

Jianhua Lv, Guoren Wang, Northeastern Univ. of China, Shenyang, China.

Abstract

Most query languages in **XML** database systems use regular path expressions (RPE) to query or extract data from databases and some query processing and optimization techniques have been proposed for RPEs. Conceptually **XML documents** are collections of path instances. Each path instance should conform to an **XML element tag** sequence, called path schema. A RPE query can be written as an automaton that can represent a language, while path schemas can be seen as sentences. A novel RPE computing approach, automaton match (AM), is proposed. AM queries the RPEs by matching the automatons with path schemas. The experimental results show AM is quite efficient for computing RPE queries.

Descriptors

 DATABASE-MANAGEMENT-SYSTEMS;  FINITE-STATE-MACHINES;  HYPERMEDIA-MARKUP-LANGUAGES;  QUERY-LANGUAGES;  QUERY-PROCESSING;  TREE-DATA-STRUCTURES.

Classification codes

C6160 Database-management-systems-DBMS*;
C6130M Multimedia;
C4220 Automata-theory;
C6120 File-organisation;
C6130D Document-processing-techniques.

Keywords

query-language; **XML-database-system**; regular-path-expression; RPE-query; data-querying; data-extraction; query-processing-technique; query-optimization-technique; **XML-document**; **XML-element-tag-sequence**; path-schema; automaton-match.

Treatment codes

P Practical;
I Theoretical-or-mathematical.

Language

English.

Publication type

Conference-proceedings.

Publication year

2003.

Publication date

20030000.

Edition

2003050.

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Inspec - 1898 to date (INZZ)**Accession number & update**

0007816047 20051201.

TitleIncremental validation of **XML documents**.**Conference information**

Database Theory - ICDT 2003. 9th International Conference. Proceedings, Siena, Italy, 8-10 Jan. 2003.

Source

Database Theory - ICDT 2003. 9th International Conference. Proceedings (Lecture Notes in Computer Science Vol.2572), 2003, p. 47-63, 25 refs, pp. xi+454, ISBN: 3-540-00323-1.

Publisher: Springer-Verlag, Berlin, Germany.

Author(s)Papakonstantinou-Y, Vianu-V.Editor(s): Calvanese-D, Lenzerini-M, Motwani-R.**Author affiliation**

Papakonstantinou, Y., Vianu, V., Comput. Sci. & Eng., California Univ., San Diego, CA, USA.

Abstract

We investigate the incremental validation of **XML documents** with respect to DTDs and **XML** schemas, under updates consisting of element **tag** renamings, insertions and deletions. DTDs are modeled as extended context-free grammars and **XML** schemas are abstracted as "specialized DTDs", allowing to decouple element types from element **tags**. For DTDs, we exhibit an $O(m \log n)$ incremental validation algorithm using an auxiliary structure of size $O(n)$, where n is the size of the **document** and m the number of updates. For specialized DTDs, we provide an $O(m \log \text{size } O(n))$. This is a significant improvement over brute-force revalidation from scratch.

Descriptors

 COMPUTATIONAL-COMPLEXITY;  CONTEXT-FREE-GRAMMARS;  DATA-MODELS;
 DATABASE-THEORY;  FINITE-AUTOMATA;  FORMAL-VERIFICATION;  HYPERMEDIA-
MARKUP-LANGUAGES;  TREE-DATA-STRUCTURES.

Classification codes

C6130D Document-processing-techniques*;
C6130M Multimedia;
C4210L Formal-languages-and-computational-linguistics;
C4240C Computational-complexity;
C4220 Automata-theory;
C6110F Formal-methods;
C6120 File-organisation;
C4250 Database-theory;
C6160 Database-management-systems-DBMS.

Keywords

XML-document-incremental-validation-algorithm; **XML-schema**; context- free-grammar;
document-type-definition; DTD.

Treatment codes

I Theoretical-or-mathematical.

Language

English.

Publication typeConference-proceedings.**Publication year**

2003.

Publication date

20030000.

Edition

2003050.

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Inspec - 1898 to date (INZZ)

Accession number & update

0007678530 20051201.

Title

Naming in **XML documents**.

Conference information

On the Move to Meaningful Internet Systems 2002: CoopIS, DOA, and ODBASE. Confederated International Conferences Proceedings, Irvine, CA, USA, Aug. 2002.

Sponsor(s): Boeing, USA; OntoWeb, Netherlands; Telecoria Technol., USA.

Source

On the Move to Meaningful Internet Systems 2002. CoopIS, DOA, and ODBASE. Confederated International Conferences CoopIS, DOA, and ODBASE 2002 Proceedings (Lecture Notes in Computer Science Vol.2519), 2002, p. 1287-303, 24 refs, pp. xxiii+1367, ISBN: 3-540-00106-9.

Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

[Lawrence-R.](#)

Editor(s): [Meersman-R.](#), [Tari-Z.](#)




Author affiliation

Lawrence, R., Dept. of Comput. Sci., Iowa Univ., Iowa City, IA, USA.

Abstract

XML is now an established standard for data communication and representation. There has been considerable work on **XML** querying, modeling, and type definition. However, one of the most important aspects of **XML**, standardized **tag** naming for conveying semantics, has been almost ignored by the research community. This paper argues that the naming aspects of **XML** are important to consider and presents a naming methodology for **XML tags** that captures increased context information. Using semantic **tag** names opens up the possibility of semantic querying of **XML documents**, which simplifies query formulation by reducing the reliance on path expressions. A semantic query facility allows **XML documents** with similar semantics, but organized using different DTDs, to be queried without modifying the original query formulation. Finally, we demonstrate an algorithm for converting semantic queries to structural queries by disambiguating incomplete path expressions.

Descriptors

 [HYPERMEDIA-MARKUP-LANGUAGES](#);  [NAMING-SERVICES](#);  [QUERY-LANGUAGES](#);

 [QUERY-PROCESSING](#);  [TREE-DATA-STRUCTURES](#).

Classification codes

[C6120 File-organisation*](#);

[C6130D Document-processing-techniques](#);

[C6140D High-level-languages](#);

[C7240 Information-analysis-and-indexing](#);

[C6160 Database-management-systems-DBMS](#).

Keywords

data-communication; data-representation; **XML-querying**; **XML-modeling**; incomplete-path-expressions; **XML-type-definition**; **standardized-tag-** naming; semantics; semantic-queries; structural-queries.

Treatment codes

[P Practical](#).

Language

English.

Publication type

[Conference-proceedings](#).

Publication year

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Edition

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☒ **document 9 of 15** [Order Document](#)**Inspec - 1898 to date (INZZ)****Accession number & update**

0007664124 20051201.

TitleEfficient structural joins on indexed **XML documents**.**Conference information**

VLDB 2002: 28th International Conference on Very Large Databases, Hong Kong, China, 20-23 Aug. 2002.

Source

Proceedings of the Twenty-eighth International Conference on Very Large Data Bases, 2002, p. 263-74, 40 refs, pp. xxvi+1118, ISBN: 1-55860-869-9.

Publisher: Morgan Kaufmann Publishers, San Francisco, CA, USA.

Author(s)[Shu-Yao-Chien](#), [Vagena-Z](#), [Donghui-Zhang](#), [Tsotras-V-J](#), [Zaniolo-C](#).Editor(s): [Bernstein-P-A](#), [Ioannidia-Y-E](#), [Ramakrishnan-R](#), [Papadias-D](#).**Abstract**

Queries on **XML documents** typically combine selections on element contents, and, via path expressions, the structural relationships between tagged elements. Structural joins are used to find all pairs of elements satisfying the primitive structural relationships specified in the query, namely, parent-child and ancestor-descendant relationships. Efficient support for structural joins is thus the key to efficient implementations of **XML** queries. Recently proposed node numbering schemes enable the capturing of the **XML document** structure using traditional indices (such as B+-trees or R-trees). This paper proposes efficient structural join algorithms in the presence of **tag** indices. We first concentrate on using B+-trees and show how to expedite a structural join by avoiding collections of elements that do not participate in the join. We then introduce an enhancement (based on sibling pointers) that further improves performance. Such sibling pointers are easily implemented and dynamically maintainable. We also present a structural join algorithm that utilizes R-trees. An extensive experimental comparison shows that the **B+-tree** structural joins are more robust. Furthermore, they provide drastic improvement gains over the current state of the art.

Descriptors [HYPERMEDIA-MARKUP-LANGUAGES](#);  [QUERY-PROCESSING](#);  [TREE-DATA-STRUCTURES](#).**Classification codes**[C616Q Database-management-systems-DBMS*](#);[C6130D Document-processing-techniques](#);[C6130M Multimedia](#);[C6140D High-level-languages](#);[C6120 File-organisation](#).**Keywords****indexed-XML-documents**; efficient-structural-joins; element-contents; path-expressions; structural-relationships; tagged-elements; parent-child-relationships; ancestor-descendant-relationships; B+-trees; R-trees; sibling-pointers.**Treatment codes**[P Practical](#).**Language**

English.

Publication type[Conference-proceedings](#).**Publication year**

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Publication date

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Edition

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0007386738 20051201.







TitleDiscovery of frequent **tag tree** patterns in semi-structured Web **documents**.**Conference information**Advances in Knowledge Discovery and Data Mining. 6th Pacific-Asia Conference, PAKDD 2002.
Proceedings, Taipei, Taiwan, 6-8 May 2002.**Source**Advances in Knowledge Discovery and Data Mining. 6th Pacific-Asia Conference, PAKDD 2002.
Proceedings (Lecture Notes in Artificial Intelligence Vol.2336), 2002, p. 341-55, 11 refs, pp. xiii+568,
ISBN: 3-540-43704-5.
Publisher: Springer-Verlag, Berlin, Germany.**Author(s)**Miyahara-T, Suzuki-Y, Shoudai-T, Uchida-T, Takahashi-K, Ueda-H.Editor(s): Chen-M-S, Yu-P-S, Liu-B.**Author affiliation**

Miyahara, T., Fac. of Inf. Sci., Hiroshima City Univ.

Abstract

Many Web **documents** such as HTML files and **XML** files have no rigid structure and are called semi-structured data. In general, such semi-structured Web **documents** are represented by rooted trees with ordered children. We propose a method for discovering frequent **tree** structured patterns in semi-structured Web **documents** by using a **tag tree** pattern as a hypothesis. A **tag tree** pattern is an edge labeled **tree** with ordered children which has structured variables. An edge label is a **tag** or a keyword in such Web **documents**, and a variable can be substituted by an arbitrary **tree**. So a **tag tree** pattern is suited to representing **tree** structured patterns in such Web **documents**. First we show that it is hard to compute the optimum frequent **tag tree** pattern. So we present an algorithm for generating all maximally frequent **tag tree** patterns and give the correctness of it. Finally, we report some experimental results on our algorithm. Although this algorithm is not efficient, experiments show that we can extract characteristic **tree** structured patterns in those data.

Descriptors

 COMPUTATIONAL-COMPLEXITY;  DATA-MINING;  HYPERMEDIA-MARKUP-LANGUAGES;
 INFORMATION-RESOURCES;  INFORMATION-RETRIEVAL;  TREES-MATHEMATICS.

Classification codes

C7250R Information-retrieval-techniques*;
C6130D Document-processing-techniques;
C7240 Information-analysis-and-indexing;
C1160 Combinatorial-mathematics;
C4240C Computational-complexity;
C7210N Information-networks;
C6160 Database-management-systems-DBMS.

Keywords

frequent-tag-tree-patterns; **semi-structured-Web-documents**; **HTML-files**; **XML-files**; **semi-structured-data**; **rooted-trees**; **ordered-children**; **edge-labeled-tree**; **edge-label**; **keyword**; **tree-structured-patterns**.

Treatment codes

P Practical;
I Theoretical-or-mathematical.

Language

English.

Publication type

Conference-proceedings.

Publication year

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Publication date

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Edition

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☒ **document 11 of 15** Order Document

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0007128641 20010101.

Title

Discovery of frequent **tree** structured patterns in semistructured Web **documents**.

Conference information

Advances in Knowledge Discovery and Data Mining. 5th Pacific-Asia Conference, PAKDD 2001, Hong Kong, China, 16-18 April 2001.

Sponsor(s): SAS; ETNet; Hong Kong Pei Hua Educ. Found; IEEE Comput. Soc. Hong Kong Sect., Comput. Chapter; ACM Hong Kong; et al.

Source

Advances in Knowledge Discovery and Data Mining. 5th Pacific-Asia Conference, PAKDD 2001. Proceedings (Lecture Notes in Artificial Intelligence Vol.2035), 2001, p. 47-52, 10 refs, pp. xviii+596, ISBN: 3-540-41910-1.

Publisher: Springer-Verlag, Berlin, Germany.

Author(s)

Miyahara-T, Shoudai-T, Uchida-T, Takahashi-K, Ueda-H.

Editor(s): Cheung-D, Williams-G-J, Li-Q.




Author affiliation

Miyahara, T., Fac. of Inf. Sci., Hiroshima City Univ.

Abstract

Many **documents** such as Web **documents** or **XML** files have no rigid structure. Such semistructured **documents** have been rapidly increasing. We propose a new method for discovering frequent **tree** structured patterns in semistructured Web **documents**. We consider the data mining problem of finding all maximally frequent **tag tree** patterns in semistructured data such as Web **documents**. A **tag tree** pattern is an edge labeled **tree** which has hyperedges as variables. An edge label is a **tag** or a keyword in Web **documents**, and a variable can be substituted by any **tree**. So a **tag tree** pattern is suited for representing **tree** structured patterns in semistructured Web **documents**. We present an algorithm for finding all maximally frequent **tag tree** patterns. Also we report some experimental results on **XML documents** by using our algorithm.

Descriptors

 DATA-MINING;  INFORMATION-RESOURCES;  TREE-DATA-STRUCTURES.

Classification codes

C7210N Information-networks*;

C6120 File-organisation;

C6170K Knowledge-engineering-techniques.

Keywords

frequent-tree-structured-patterns-discovery; XML-files; data-mining; tag-tree-patterns; edge-labeled-tree; hyperedges; XML-documents; semistructured-Web-documents.

Treatment codes

A Application;

P Practical.

Language

English.

Publication type

Conference-proceedings.

Publication year

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Publication date

20010000.

Edition

2001050.

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☒ **document 12 of 15** Order Document

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Accession number & update

0007209687 20051201.

Title

Adaptive conversion of Web content for mobile terminals.

Source

Journal of KISS: Computing Practices, {J-KISS-Comput-Pract-South-Korea }, Dec. 2000, vol. 6, no. 6, p. 635-42, 14 refs, CODEN: CKNCFY, ISSN: 1229-7712.

Publisher: Korea Inf. Sci. Soc, South Korea.










Author(s)

Sueng-chun-Kang, Kwangsue-Chung.

Abstract

In this paper, we propose an efficient **document** conversion mechanism to provide an adaptive Web **document** to mobile terminals. We also propose a RHTML (reduced HTML) to archive the adaptive **tag** reduction. A markup error correction process in the proposed adaptive **document** conversion mechanism converts an HTML (HyperText Markup Language) **document** into an **XML** (Extensible Markup Language) application **document**. This process makes Web **documents** easy to handle with DOM (**document** object model) as the **tree** model, and it removes the hardware overhead in mobile terminals. Also, a **tag** reduction process provides the adaptive Web **document** with three DTDs (**document** type definitions) in the RHTML.

Descriptors

 ADAPTIVE-SYSTEMS;  DOCUMENT-HANDLING;  ELECTRONIC-DATA-INTERCHANGE;
 ERROR-CORRECTION;  HYPERMEDIA-MARKUP-LANGUAGES;  INFORMATION-RESOURCES;
 INTERACTIVE-TERMINALS;  MOBILE-COMPUTING;  TREE-DATA-STRUCTURES.

Classification codes

C6130D Document-processing-techniques*;

C7210N Information-networks;

C6130M Multimedia;

C6130E Data-interchange;

C6150N Distributed-systems-software.

Keywords

adaptive-Web-content-conversion; mobile-terminals; **document-** conversion-mechanism; **adaptive-Web-document;** World-Wide-Web; reduced-HTML; **adaptive-tag-reduction-archiving;** markup-

error-correction-process; **XML-application-document**; DOM; **document-object-model**; tree-model; hardware-overhead; **document-type-definitions**.

Treatment codes

P Practical.

Language

Korean.

Publication type

Journal-paper.

Availability

SICI: 1229-7712(200012)6:6L.635:ACCM; 1-#.

Publication year

2000.

Publication date

20001200.

Edition

2002011.

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☒ **document 13 of 15** Order Document

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Accession number & update

0006912587 20051201.

Title

Querying **XML documents** made easy: nearest concept queries.

Conference information

Proceedings of 17th IEEE International Conference on Data Engineering, Heidelberg, Germany, 2-6 April 2001.

Sponsor(s): IEEE Comput. Soc. Tech. Committee on Data Eng; EML; IBM; Hewlett-Packard; SAS; Microsoft; ABB; Software AG; sd&m.

Source

Proceedings 17th International Conference on Data Engineering, 2001, p. 321-9, 23 refs, pp. xxii+666, ISBN: 0-7695-1001-9.

Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA.

Author(s)

Schmidt-A, Kersten-M, Windhouwer-M.

Author affiliation







Schmidt, A., Kersten, M., Windhouwer, M., CWI, Amsterdam, Netherlands.

Abstract

Due to the ubiquity and popularity of **XML**, users often are in the following situation: they want to query **XML documents** which contain potentially interesting information but they are unaware of the mark-up structure that is used. For example, it is easy to guess the contents of an **XML** bibliography file whereas the mark-up depends on the methodological, cultural and personal background of the author(s). None the less, it is this hierarchical structure that forms the basis of **XML** query languages. We exploit the **tree** structure of **XML documents** to equip users with a powerful tool, the meet operator that lets them query databases with whose content they are familiar, but without requiring knowledge of **tags** and hierarchies. Our approach is based on computing the lowest common ancestor of nodes in the **XML** syntax **tree**: e.g., given two strings, we are looking for nodes whose offspring contains these two strings. The novelty of this approach is that the result type is unknown at query formulation time and dependent on the database instance. If the two strings are an author's name and a year mainly publications of the author in this year are returned. If the two strings are numbers the result mostly consists of publications that have the numbers as year or page numbers. Because the result type of a query is not specified by the user we refer to the lowest common ancestor as nearest concept. We also present a running example taken from the bibliography domain, and demonstrate

that the operator can be implemented efficiently.

Descriptors

 DATA-MODELS;  HYPERMEDIA-MARKUP-LANGUAGES;  MULTIMEDIA-DATABASES;
 QUERY-LANGUAGES;  QUERY-PROCESSING;  TREE-DATA-STRUCTURES.

Classification codes

C6160M Multimedia-databases*;
C6140D High-level-languages;
C6130D Document-processing-techniques.

Keywords

XML-document-querying; nearest-concept-queries; mark-up-structure; **XML-bibliography-file**;
query-languages; **tree-structure**; **syntax-tree**; query-formulation-time.

Treatment codes

P. Practical.

Language

English.

Publication type

Conference-proceedings.

Availability

CCCC: 1063-6382/2001/\$10.00.

Digital object identifier

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Publication year

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Publication date

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Accession number & update

0006663111 20051201.

Title

An automated approach for retrieving hierarchical data from HTML tables.

Conference information

Proceedings of CIKM99: Conference on Information and Knowledge Management, Kansas City, MI,
USA, 2-6 Nov. 1999.
Sponsor(s): ACM.

Source

Proceedings of the Eighth International Conference on Information Knowledge Management. CIKM'99,
1999, p. 466-74, 10 refs, pp. x+553, ISBN: 1-58113-146-1.
Publisher: ACM, New York, NY, USA.

Author(s)

Seung-Jin-Lim, Yiu-Kai-Ng.

Editor(s): Gauch-S.

Author affiliation








Seung-Jin Lim, Yiu-Kai Ng, Dept. of Comput. Sci., Brigham Young Univ., Provo, UT, USA.

Abstract

Among the HTML elements, HTML tables encapsulate hierarchically structured data (hierarchical data in short) in a tabular structure. HTML tables do not come with a rigid schema and almost any forms of two-dimensional tables are acceptable according to the HTML grammar. This relaxation complicates the

process of retrieving hierarchical data from HTML tables. We propose an automated approach for retrieving hierarchical data from HTML tables. The proposed approach constructs the content **tree** of an HTML table, which captures the intended hierarchy of the data content of the table, without requiring the internal structure of the table be known beforehand. Also, the user of the content **tree** does not deal with HTML **tags** while retrieving the desired data from the content **tree**. Our approach can be employed by: (i) a query language written for retrieving hierarchically structured data, extracted from either the contents of HTML tables or other sources; (ii) a processor for converting HTML tables to **XML documents**; and (iii) a data warehousing repository for collecting hierarchical data from HTML tables and storing materialized views of the tables. The time complexity of the proposed retrieval approach is proportional to the number of HTML elements in an HTML table.

Descriptors

 COMPUTATIONAL-COMPLEXITY;  DATA-ENCAPSULATION;  DATA-WAREHOUSES;
 HYPERMEDIA-MARKUP-LANGUAGES;  INFORMATION-RETRIEVAL;  QUERY-LANGUAGES;
 TREE-DATA-STRUCTURES.

Classification codes

C6130D Document-processing-techniques*;
C7250 Information-storage-and-retrieval;
C6160Z Other-DBMS;
C6120 File-organisation.

Keywords

hierarchical-data-retrieval; HTML-tables; data-encapsulation; tabular-structure; two-dimensional-tables; **content-tree**; query-language; processor; **XML-documents**; data-warehousing-repository; materialized-view-storage; time-complexity.

Treatment codes

P Practical;
I Theoretical-or-mathematical.

Language

English.

Publication type

Conference-proceedings.

Availability

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Accession number & update

0006170834 20051201.

Title

An **XML document** to JavaScript object converter.

Source

WEB Techniques, {WEB-Tech-USA}, Jan. 1999, vol. 4, no. 1, p. 63-9, 0 refs, CODEN: WETEFA, ISSN: 1086-556X.

Publisher: Miller Freeman, USA.








Author(s)

Hildyard-A.

Abstract

XML is fast gaining currency as the standard for Web based data transmission. But how will **XML documents** be viewed by all those non **XML** browsers? The author has come up with an approach that brings some of the benefits of **XML** based **documents** to non **XML** browsers. His workaround is a server side conversion of **XML documents** to JavaScript code; this code gets interpreted by the browser and results in a data structure roughly equivalent to the parse **tree** that would have been produced by an **XML** enabled browser. Transforming **XML documents** from **tag stream** to **DOM (Document Object Model)** provides a similar benefit of increased accessibility for the data consumer that moving data from databases to **XML** data sources provides for data producers. With **XML** represented at the level of the **DOM**, Web based consumers are freed from both the need for an **XML** parser and also from the need to have direct access to original **XML** data sources. Applets, scriptlets, ActiveX controls, and other client side components have the same programmatic access to browser based **XML documents** as they have to the rest of the browser's **DOM**. As it turns out, this workaround offers significant advantages over a pure **XML** approach: it's a lot faster, and the code to manipulate **XML** derived objects is cleaner and more concise.

Descriptors

 [AUTHORING-LANGUAGES](#);  [CLIENT-SERVER-SYSTEMS](#);  [DISTRIBUTED-OBJECT-MANAGEMENT](#);  [HYPERMEDIA-MARKUP-LANGUAGES](#);  [INTERNET](#);  [JAVA](#);  [ONLINE-FRONT-ENDS](#).

Classification codes

[C6130D Document-processing-techniques*](#);
[C6130M Multimedia](#);
[C6140D High-level-languages](#);
[C6110J Object-oriented-programming](#);
[C6150N Distributed-systems-software](#);
[C6115 Programming-support](#);
[C7250N Search-engines](#);
[C7210N Information-networks](#).

Keywords

XML-document; JavaScript-object-conversion; Web-based-data- transmission; **non-XML-browsers**; workaround; server-side-conversion; JavaScript-code; data-structure; **parse-tree**; **XML-enabled-browser**; **tag- stream**; **DOM**; **Document-Object-Model**; data-consumer; **XML-data-sources**; Web-based-consumers; applets; scriptlets; ActiveX-controls; client-side-components; programmatic-access; **browser-based-XML-documents**; **XML-derived-objects**.

Treatment codes

P. Practical.

Language

English.

Publication type

[Journal-paper](#).

Availability

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Publication date

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